

Notice of Allowability

Application No.

10/073,335

Applicant(s)

ODELL, DON

Examiner

Art Unit

Wes Tucker

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed October 26, 2005.
2. ☒ The allowed claim(s) is/are 1-22.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>11-16-05</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Response to Amendment

1. Applicants response to the last Office action filed October 26th 2005 has been entered and made of record.
2. Applicant has amended claims 1, 14 and 17-20. Claims 1-22 remain pending.
3. The remarks and arguments made by applicant are considered persuasive and are responded to below.

Claim Rejections - 35 USC § 112

4. The 112 rejections previously presented are hereby withdrawn in view of the Applicants amendments and explanations.

Claim Rejections - 35 USC § 102

5. Applicant makes the remark that the Examiner must have mistakenly recited U.S. Patent 5,640,241 to Ogawa and must have instead meant to cite the U.S. Patent 5,499,098. Examiner assures Applicant that the correct Patent 5,640,241 was cited and that all of the cited passages and figure numbers are from this patent as well. In view of the amendments and remarks neither patent reads on the claims, but for the

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record, U.S. Patent 5,640,241 to Ogawa is indeed the Patent cited, primarily with regard to figures 3, 8 and 9 disclosing a mask and all the relevant cited passages from the last office action.

EXAMINER'S AMENDMENT

6. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with H. Jay Spiegel Reg. No. 30,722 on November 16, 2005.

In claim 19, step g) please amend to read as follows:

"g) computing magnification of said image as compared to a size of said image at said mask by forming a ratio of maximum detected single frequency to known maximum mask single frequency;

In claim 19, step h), please replace the phrase "said mask pattern" with "said image at said mask".

Allowable Subject Matter

7. Claims 1-22 are allowed.

The following is an examiner's statement of reasons for allowance:

Applicant has amended the claims to cite the steps of:

d) computing means for computing data related to said image, said computing means computing a Fast Fourier Transform (FFT) of the image;

e) identifying means for identifying a highest single frequency of said FFT of the image, said highest single frequency comprising a spectral peak of said FFT;

f) said computing means including means for computing degree of magnification of said image on said detector as compared to size of said image as it passes through said mask by forming a ratio of maximum detected single frequency to known maximum mask single frequency;

With regard to Claim 1, U.S. Patent 5,640,241 to Ogawa discloses steps a-d and g of recording a mask and determining the angular position (Fig. 8, column 8, line 67-column 9, line 3 and column 3, lines 38-43) as discussed in the previous office action. Ogawa also discloses determining a magnification of the (column 8, line 67-column 9, line 3) image but does not disclose the computing a Fast Fourier Transform and detecting a single peak frequency. U.S. Patent 6,457,169 to Ross discloses using Fourier transformed images (Fig. 3 and column 6, lines 32-67) and further teaches detecting frequency peaks or highest single frequencies (Fig. 3, peak 30) in order to aid in aligning masks and images etc. However neither Ross nor Ogawa nor any of the found prior art teach or fairly suggest the feature of:

f) said computing means including means for computing degree of magnification of said image on said detector as compared to size of said image as it passes through said mask by forming a ratio of maximum detected single frequency to known maximum mask single frequency.

Claim 14 is found to be allowable for the same reasons as claim 1. Claim 19 has been amended by Examiner's amendment with the permission of Applicants represented listed above and is therefore also found allowable for the same reasons as claim 1. All of the subsequent dependent claims are accordingly found to be allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wes Tucker whose telephone number is 571-272-7427. The examiner can normally be reached on 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wes Tucker

11-16-05

A handwritten signature in black ink, appearing to read 'Vikram Bali', with a stylized, cursive script.

**VIKKRAM BALI
PRIMARY EXAMINER**